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PLACE ACQUIRED

THIS IS UNEVALUATED INFORMATION

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A. GENERAL INFORMATION ON BORDER DEFENSE ZONES

Source stated that in the Moldavian, East Prussian, Turkmen-Afghanistan or Lithuanian border areas there were, in the post World War II period, no military defense lines such as outposts, main resistance lines, or military-controlled zones. On the contrary, the immediate border zone was off limits to all army personnel.

The 347th Rifle Div. was stationed in Kushka /N 35-16, E 62-247, but its personnel were not permitted in the border areas south, west or east of Kushka. Border Guard Troops detained high ranking officers, including the division CG, who hunted in the off-limits border areas without a special permit from the border district CG.

Depth of the restricted zone, which was off limits to all except the Border Guard Troops, varied greatly. In Turkmen, it was from 1½ to 25 km. in depth; in Lithuania, it varied from 800 m. to 2 km. /See

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Border security employed in the post World War II period consisted of plowed strips and electric detection devices running parallel to the border and along its entire length.

Regardless of terrain, weather, or climate, every inch of the border was supposed to be under constant observation. Patrols were sent out in overlapping sequences to accomplish this.

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From the border to 30 km. within it, the territory was off limits to all except the Border Guard Troops. However, the distance actually varied from

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approximately 800 m. to 30 km. If there were any fields or orchards within the restricted zone, Border Guard Troops accompanied workers to the field, stayed with them while they worked and excorted them out of the zone.

There were no fortifications or border installations on the Afghanistan side of the border. On the Polish side, however, there were such obstacles as barbed wire and plowed strips. 50X1

B. [redacted]

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[redacted] Each Border District headquarters had a separate signal battalion. This unit consisted of radio, telegraph-telephone, wire construction and electric devices platoons. 50X1 [redacted] Each detachment also had four such platoons. These signal men constructed and maintained the telephone-telegraph poles, communications lines and electric detection devices (Encls. A through D).

50X1 The Border Security Department on district and detachment levels (see p. 4, para. 7b, [redacted], page 2, para. 4b, (2) and (3)) constructed hidden and covert observation points along the border and also aided signal men with construction of poles and detection devices.

a. The Main Administration of the Border Guards had a definite technique for development of border terrain. The execution was left to the discretion of detachment and battalion CO's. They had the authority to survey the border and to select the best places for towers to overlook the border area and for hidden observation points. If they thought that trees and other landmarks obstructed the field of vision, they had them removed.

b. The only equipment Source was familiar with were the electric detection devices described in the attached enclosures. In the opinion of Source all of these were post World War I developments. 50X1

2. [redacted]

[redacted] /See Encl. A for techniques used regarding man-made obstacles./ There were no minefields in the border areas Source knew. The Klen-M (electric detection device), barbed wire fence, plowed strip, telephone poles, and deployment trenches were standard obstacles. The S-2 detection set was a special one used by details hidden in ambush in terrain favorable for illegal border crossing. The SV-2, Rubin and Tantal detection devices were experimental models.

Green and red rockets were used on the border. They lit up areas at night and also served as signals from border patrols to their company headquarters. The signals indicated the following: someone crossed the border, send help, call out the OD, foreign airplanes are crossing the border or send two or three EM to convoy an illegal border crosser. Red, green or any combinations of the two were used for the above signals. These flare signal combinations were changed at irregular intervals.

a. /See Encls. B through D for description of the Klen-M, S-2, SV-2, Tantal and Rubin electric detection devices./

b. Power supply for these devices is given with each description. There were no mines or fences charged with electric current, radar, searchlights, infra-red or photo-electric equipment along the border. In fact, companies along the border had little or no electricity. Some had only kerosene lamps, while others had small wind or water-driven generators.

c. Except for hidden observation points, obstacles which were inconspicuous and Klen-M devices hidden between barbed wire strands, no camouflage was employed on the border. Methods to evade detection of devices are given with the description of each one in the enclosures. 50X1

3. [redacted]

4. Weapons: 50X1

[redacted]

a. He knew of no new AA guns, fire controls, or associated data.

50X1 b. He had no information on AT recoilless weapons. He said that the SPG-82 was being replaced at AT flame throwers. 50X1

[redacted]

5. [redacted]

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Border Guard Troops had nothing to do with animal quarantine controls. The only connection they would have with it arose when a guard learned of a cattle epidemic from the kolkhozniks or sovkhozniks. He would then phone the OD or his company CO, and the message would be relayed to detachment headquarters. Detachment then phoned the Rayon Administration, which sent out veterinaries to quarantine and to cure the infected cattle.

Source heard of an epidemic that affected many horses during 1946-1948 in Gerdauen /N 54-21, E 21-19/. This disease, called Infektsionnaya Anemiya (Infectious Anemia), killed many horses and broke out at various times despite all efforts to check it. He had no information on the organization and methods used to control this disease.

There were no animal epidemics or quarantines along the Turkmen-Afghanistan border.

Enclosures:

A. Physical Characteristics of Border Security
B. Electric Detection Device Klen-M
C. Electric Detection Device S-2
D. Electric Detection Devices SV-2, Tantal and Rubin

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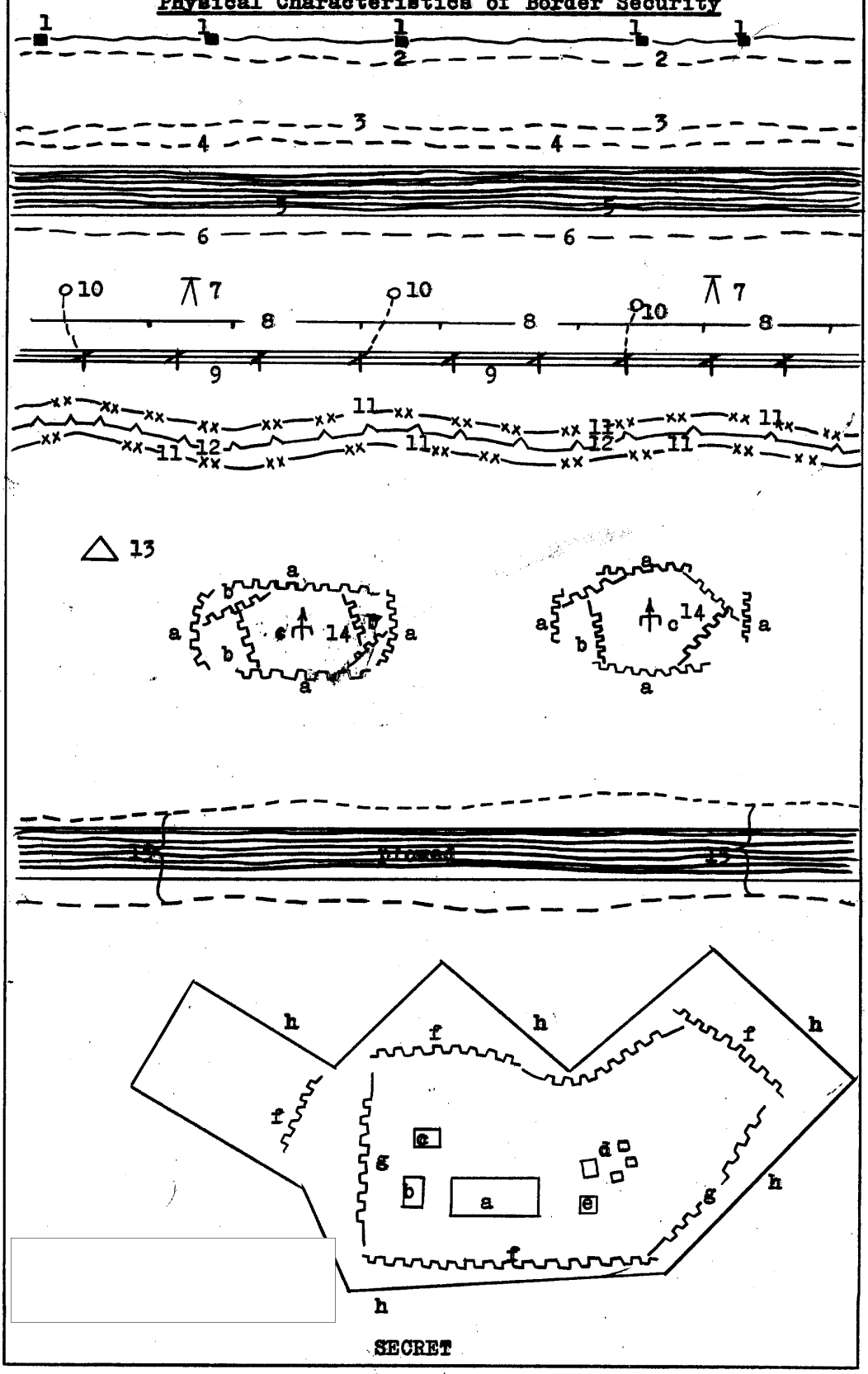
Enclosure A

Physical Characteristics of Border Security

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Enclosure A (Cont'd)

## Physical Characteristics of Border Security

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1. Border pillars (stakes): rectangular-shaped wood or cement, 2 m. high and 30 cm. thick. The top sloped down to an inverted cone shape. The interval between the pillars depended on the terrain. They were supposed to be placed so that a man could see from one pillar to the next with the naked eye. On the side facing the bordering country, the emblem of the USSR was screwed to the upper part of the pillar. The emblem was made of unpainted rustfree steel. Under the emblem the number of the pillar was painted in white. As a rule the numbers were in successive order. Green and red stripes were painted around the pillar.

   In order to sharply define the border, a deep furrow was plowed wherever necessary due to hilly terrain.

2. Officers' Path (Ofitserskaya Tropa): 2-5 m. behind the border pillars. This path was for officers to check the condition of the pillars to see if they had been damaged or moved inside the USSR, thus giving the other country more land. The path was supposed to be (but was not) covered once daily.

3. NCO's path: 100-300 m. behind the Officers' Path. Once or twice daily an NCO with a specially trained search dog walked along the path to determine if the dog could smell any suspicious odors, or if there were any footprints on the plowed strip (see item 5), indicating that someone had crossed the border.

4. Patrol Path (Dozornaya Tropa): 2-5 m. behind the NCO's path. Covered four times daily by patrols to check for footprints on the plowed strip.

5. Control-Tracing Strip (Kontrol'no-sledovaya Polosa): usually 300-400 m. from the border, but varied with the terrain. It consisted of a strip of freshly plowed earth 10-12 m. wide. The strip was plowed with a hand plow by Border Guard Troops, and was replowed whenever footprints were noted in the strip. This strip ran along the entire border. It was impossible to enter or leave the USSR without leaving footprints in the strip. The checking of footprints was of utmost importance.

6. Patrol Path: same as item 4, but on Soviet side of strip.

7. Wooden observation towers: 16-20 m. high, spaced so that guards were able to observe the whole border terrain. The location depended on terrain features, etc. There were usually about five towers in the 10-15 km. company area.

8. Electrical detection devices: either "SV-2", "Rubin", or "Tantal". Parallel to the plowed strip, but about 150 m. further from the border.

9. Telegraph and telephone poles.

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10. Socket outlets for telephones: connected to the telephone wires about 200-300 m. apart. Usually there were 40-50 such outlets in a 10-15 km. company area. The outlets were hidden in places known only to border guards, and were covered and encased for protection against sand, rain, and animals. Border patrols had portable phones which they could plug into the outlets and contact the company, battalion CO, or OD.

11. Barbed wire: two double or single rows, 1½-2 m. high, about 6 m. apart. Between the two rows, the Electric Detection Device Klen-M was installed.

12. Electric Detection Device Klen-M.

13. Covered observation post: in a depth of 5-15 km. all along the border. The OPs were placed in ravines, caves, woods, gullies, valleys, or heights. Along the OPs were invisible obstacles (Malozametnyye Zagrazhdenii) which consisted of wire placed about 80 cm. above the ground to trip, delay, and trap illegal border crossers. In these places patrols would often lie in hiding and install the S-2 Electric Detection Device. Usually in the 10-15 km. area of a border company there were about five to seven such hiding places.

14. Deployment defense lines for the border company (Rubezh Razvertyvaniya Zastava): each company was supposed to have two or three such lines. Each line had four trenches (a) in a perimeter defense, communicating trenches (b), and an MG nest (c). The deployment lines were from 500 m. to three kilometers inside the border, depending on terrain.

Theoretically, there were supposed to be MGs trained on danger spots, able to fire day and night. As a rule, the trenches never had MGs or any other equipment, were never used, and were unoccupied. In fact, many companies never dug these lines, and those that were dug were neglected.

The purpose of the deployment lines was to delay any invaders (enemy or "bandits") and keep them under fire until the arrival of army reinforcements. In case of emergency, Border Guard Troops units were supposed to hold these lines at all cost, and were permitted to retreat only on order of the detachment CO.

15. Second Control-Tracing Strip: while all border areas were supposed to have a second strip, it was not always possible to have one, due to terrain difficulties. On the Lithuanian border there was only one Control-Tracing Strip. In some sectors of the Turkmen border there were two strips.

The second strip was not at any fixed distance inside the border. The guiding theory was the further inside the border the better. In actual practice, the second strip was twice as far from the border as the first strip. The second strip also had on one side a path for an NCO with a search dog, and on each side a path for patrols to check for footprints on the strip.

It was planned to have a second barbed wire fence with the Electric Detection Device Klen-M inside the second strip, 50X1 this had not been done.

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16. Company area: supposed to be 1-2 km. inside the border; however, [redacted] one company was 1½ km. inside the border, others 3-4 km, one 9 km, and one 12 km. In Lithuania, the company areas were 100-200 m, inside the border. 50X1

A company was supposed to be able to ward off an attack until the arrival of reinforcements. Therefore the area was adapted to defense from inside the buildings. The actual billets varied. Some had one large building with billets for officers and their wives, kitchen, supply, offices, and EM billets. Others had separate buildings. A typical company area, 300 x 250 m, consisted of the following (see sketch):

a. EM billets: 1-story wooden or stone bldg about 40 x 12 m. Had two long rows of single- or double-decker bunks, about 80 cm. from the wall. Rifle racks were between the two rows of bunks. There were shelves where EM kept ammunition pouches, grenades, gas masks, rucksacks, suitcases, mess gear, etc. There was one footlocker for every two men, for personal and toilet articles. There were also offices for the CO and OD, and a CQ room. The CQ room held the switchboard and the main instrument of the electric detection devices.

b. Officer billets: usually 1-story wooden or stone bldgs, 20 x 10 m. Shared by three officers and their families. Each family had one room, and the kitchen was shared by all.

c. Mess hall and food storage: 1-story wooden or stone bldg about 20 x 10 m.

d. Stables, pigeon coop, dog kennels, laundry, shower rooms, etc.

e. Political-cultural rooms: 1-story stone or wooden bldg 20 x 10 m.

f. Pillboxes and trenches.

g. Communicating trenches.

h. Brick wall or barbed wire fence: about 2 m. high.

Brick walls had firing apertures and a deep, wide moat at the front.

It was desirable to have a separate building for storage of weapons, uniforms, and staple foods, but such a building rarely existed.

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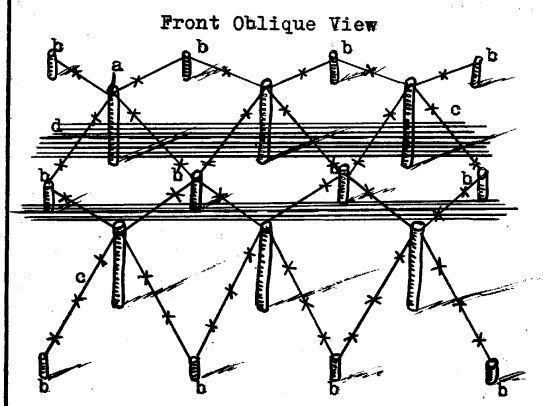
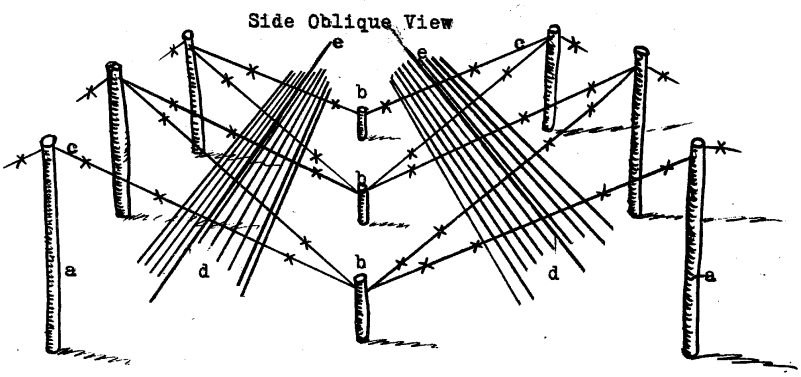
Enclosure B

Source's Memory Sketch of Electric Detection Device Klen-M

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Enclosure B (Cont'd)

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Source's Memory Sketch of Electric Detection Device Klen-M

Source could not define the meaning of Klen-M. note: believed to be "Kasatel'nyy Locatsionnyy Nabluydatel'-nyy Model" (Touch-Location-Observation Model). In source's opinion, this set was the best and most effective detection device.

1. Installation and Description

Two rows of barbed wire, about six meters apart, were constructed running parallel to the border. The posts (a) for the rows were about 15-20 cm in diameter and about 2½ m high. They were placed three to five meters apart. Between these two rows and on each side there were rows of short stakes (b). These stakes, 15-20 cm in diameter, were 50-60 cm high. Guy wires (c) were strung from them in a criss-cross fashion to the tops of the posts for the barbed wire, forming a series of four aprons. On the two center aprons, two 11-strand nets of wire (d) were laid parallel to the fence. The bottom strand was 10 cm from the ground and the top strand was 1½m from the ground.

At the height of the seventh strand in the 11-strand net, an operating wire (e) ran through each net. This operating wire was suspended from the net on small metal levers. On the levers were insulators and vibrators. There was a vibrator every 30 m, and an insulator every 60 m. The insulators were intended to hold the operating wire suspended alongside the net. The vibrators were filled with mercury which oscillated due to the sensitiveness of the barbed wire net. The oscillations were carried by the operating wire into the main instrument of the Klen-M, which was in the company area. The operating wire was a steel wire about three millimeters in diameter. Since there was an operating wire in each net, the instrument indicated if the border crosser was entering or leaving the USSR. Both operating wires were connected to the main instrument of the Klen-M and to a telephone line nearby.

There was an insulated wire running underground from the barbed wire to the main instrument of the Klen-M. Source could give no details on this wire.

The barbed wire fence was divided into sectors which were identified by local reference points. Each sector was about 500 m. One Klen-M could service 18 sectors, or up to nine kilometers. All border guards had to know the extent and borders of each 500-m sector and the number of the sector. Each sector received a number running from left to right. After the Klen-M was installed, a diagram was drawn up, and all sectors serviced by one Klen-M were defined. The diagram was placed in a glass frame near the main instrument.

A radioman monitored the main instrument continuously. It looked like a small radio receiver installed in a metal case. In the upper right corner of the instrument was an electric lamp which lit up (turned red) when someone touched the barbed wire net. At the same time a bell rang inside the instrument, giving a signal to the monitor. There were 18 numbered sectors on the upper front of the main instrument. Whenever a signal was received, a light went on indicating by number the sector where the violation occurred.

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Below there were switches to turn the device on and off, and a switch to put out the red light. The instrument also had two knobs for tuning control. The device worked on a 20-volt battery.

2. Operation

When a border crosser came in contact with the barbed wire net, the apron vibrated. The vibration was picked up by the mercury vibrators and carried on the operating wire to the main instrument. The main instrument had a locator which indicated resistance (type unknown) in the instrument. When resistance occurred, the bell rang, the lamp lit up, and the sector number was indicated. The instrument also indicated if the first or second operating wire had been touched, thus indicating whether a border crosser tried to enter or leave the USSR. If the crosser touched the first wire (near the border) the signal "Attention" appeared. If he touched the second wire (away from the border) the signal "Alarm" appeared. (After a few minutes, the lights were automatically extinguished and indicated nothing. This meant that there was no further vibration.)

Upon noticing these signals, the monitor reported to the company CO, OD, or CQ. After that he put the lights out by pressing the pertinent switch. The instrument was then connected again and would indicate new contacts by border crossers.

The officer in charge or the CQ assigned a patrol to the sector indicated on the main instrument to catch and detain the border crosser. He also alerted other patrols in the area. The company CO went to the sector with an alert group and personally supervised the search for the border crosser. The patrol investigated the plowed strip and barbed wire fences for evidence of border crossers. Otherwise the patrol tried to determine what had caused the alarm, and reported this to the CO. The monitor made pertinent entries in his log.

3. Advantages

The Klen-M always gave a signal when someone touched the barbed wire net and the operating wire. The fence was in itself a good obstacle to detain border crossers. The Klen-M precluded the possibility of crossing the border secretly by car or on horseback. It did not require too much attention by patrols, and allowed them more rest. It showed within 500 m. where the crossing was made, and if the border crosser had tried to enter or leave the USSR. The device was durable. A postwar device, the Klen-M justified itself and to the best of source's knowledge would remain in use on the border.

4. Disadvantages

It was very costly. The main instrument alone cost 15,000 rubles, and the barbed wire fence, stakes, wire, vibrators, insulators, etc, cost many thousands of rubles for each kilometer. The device would go off if touched by animals or birds, or if blown by strong winds. This caused unnecessary

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Enclosure B (Cont'd)

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alarms and confusion, and tired out personnel. The device registered only one violation at a time. If two men moved the wires within seconds of each other, only the first tremor was indicated. Thus, a man with an assistant could escape undetected. Another way to circumvent the Klen-M was to dig under the barbed wire.

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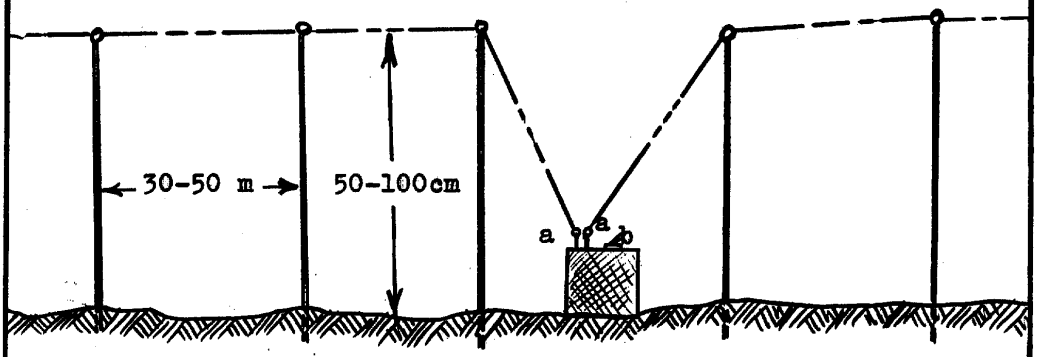
Enclosure C

**Source's Memory Sketch of Electric Detection Device S-2**

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Enclosure C (Cont'd)

Source's Memory Sketch of Electric Detection Device S-2

1. Installation

This device, installed on the borders of the USSR, weighed about two to three kilograms and was in a tin container 12-15 cm high and six to eight centimeters wide. Inside the container there was a two to six-volt battery. Source was not sure of the exact voltage. On top of the container there were two contacts (a) to which copper or steel wires about two millimeters in diameter were attached. The wires from each contact went in opposite directions. There was also a switch (b) on top to turn the set off or on.

The device had steel stakes about one-half centimeter in diameter and 50-100 cm. high. These stakes had loops on top through which the steel or copper wire ran. Each S-2 had about 50-100 such stakes, which were put up 30-50 m. apart. The device covered up to five kilometers, but the effective range was 500 m. (250 m. on each side of the container.

2. Operation and Use

The device was used in places where the terrain favored illegal border crossers. A detail set up the S-2 and hid nearby. If an illegal border crosser approached and touched the wire, it broke. Then the device emitted a loud whistling sound, similar to radio static. The whistle was loud enough to awaken a sleeping man, and lasted until the wire was connected or the set was turned off. The alarm sounded only when the wire was broken.

Upon hearing the alarm, the detail checked the plowed strip and found and detained the illegal border crosser. If the break was caused by cattle, etc, the broken wires were connected.

After completing their assigned tour of duty, the detail disconnected the S-2 and took it back to the company barracks.

3. Advantages of the S-2

It could be quickly installed in any terrain, operated without fail if carefully handled, was easy to transport, and was of simple low cost construction.

4. Disadvantages of the S-2

It did not indicate if the illegal border crosser entered or left the USSR. The wire was frequently broken by cattle, birds, or wind, causing unnecessary work and tiring out the guards. In rainy weather or dew, short circuits caused false alarms. If a man walked carefully, watched for low, thin wires, and gently lifted such wires with a stick. he could crawl underneath the wire and escape undetected.

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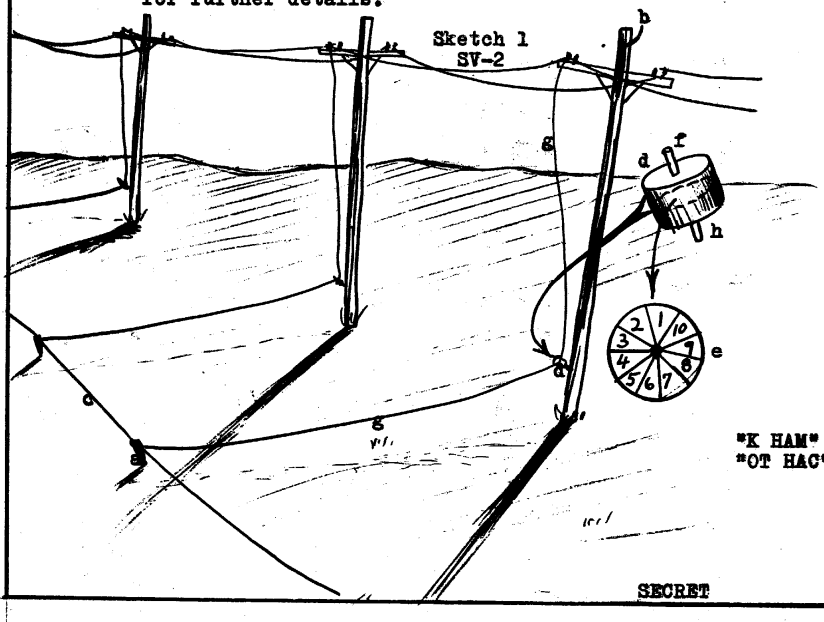
Enclosure D

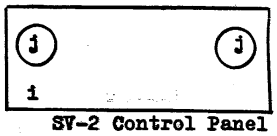
Source's Memory Sketch of Electric Detection Devices SV-2, Tantal, and Rubin

**Note:** The Tantal and Rubin Electric Detection Devices were similiar to the SV-2. See legend for further details.

Sketch 1
SV-2

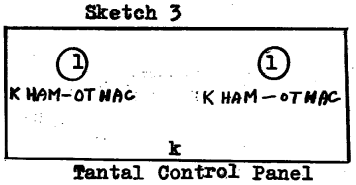



Sketch 2




SV-2 Control Panel

Sketch 3




Tantal Control Panel

"K HAM" - (K-NAM) - To our side of the border
"OT HAC"- (OT NAS)- Away from our side of the border

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Enclosure D

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Enclosure D (Cont'd)

Source's Memory Sketch of Electric Detection Devices SV-2

Tantal, and Rubin

In 1951-1952 experiments were conducted with the SV-2, Tantal, and Rubin Electric Detection Devices. They were tried along the Turkmen-Afghanistan border and were found to be ineffective. The Rubin was removed in Apr '53. The Tantal and SV-2, though ineffective, were still in use, and improvements were being tested. At a meeting in Mar '53, the Chief Sig Officer, Turkmen Border District, told all detachment and battalion COs that the SV-2 would be removed in the near future, and unless the inventor of the Tantal was able to improve it, that device would also be removed.

Source was not very familiar with these devices, but gave the following details.

1. SV-2

a. Installation (see sketch 1)

This device, which was similar to the S-2, had a range of 10 km. This was divided into 20 sectors, each of 500 m. Ten sectors were called the "right side" and 10 were called the "left side". The sectors were numbered from one to 10 right side and one to 10 left side.

Small stakes (a) about one meter in height were placed parallel to and about one meter away from the telephone-telegraph poles (b), which were about 30-50 m apart. A wire (c) about two millimeters in diameter, was strung through loops on top of the small stakes. An iron can (d) was installed on the telephone-telegraph pole about one to 1½ m from the ground. This iron can, similar to a circular food can, was about 10 inches in diameter and 10 inches in height.

Inside the can there was a plastic dial (e) with the numbers "1" to "10" (for sectors) on it. On top of the can there was a "pointer" (f) through which a wire (g) ran, connecting the can to the wire (c) strung along the stakes, and to the telephone-telegraph wires. Underneath the can was a rotating knob (h). This knob could point towards any of the 10 sectors shown on the plastic dial. The knob had to be set in a clockwise direction.

b. Operation

A border crosser would press on the wire (c), thus causing a pull on the wire. The border crosser would not know he had set off the signal. The wire pulled the pointer on top of the can (by means of connecting wire (g)), and the pointer would indicate the number of the sector where the border crosser touched the wire. (Source could not explain how the pointer would indicate a certain sector.) As soon as the pointer indicated a certain sector, the knob underneath would be forced by a spring to rotate counter-clockwise, returning the pointer to a neutral position.

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Enclosure D (Cont'd)

The set was connected by the telephone-telegraph wires to the company headquarters room. A control panel (i) (see sketch 2) about the size and shape of a field telephone box was stationed there. The panel had two round glass windows (j). If the violation was in one of the ten right sectors, a lamp would light in the right glass; if in one of the ten left sectors, a lamp would light in the left glass.

When the knob rotated counter-clockwise, a click would be heard for each rotation. If the pointer pointed towards "3", three rotations and three clicks would result. If the pointer pointed towards "10", 10 clicks resulted. These clicks were transmitted to the control panel in company headquarters. The radioman monitoring the set would thus know in what sector the border crosser touched the wire. Source could not explain how the clicks were made audible to the monitor.

The SV-2 was powered by a 20-volt battery.

c. Disadvantages

The SV-2 did not show whether the border crosser was leaving or entering the USSR. The instrument was not durable, did not always operate, and frequently indicated the wrong sector. It was often set off by animals, birds, and weather, causing unnecessary alarms and confusion, and dissipating the alertness of the guards. Many times the guards did not even bother to check the cause of a break, but gave incorrect reports.

In order to save installation expenses, old and rusty wire was used. Frequent breaks in the line resulted. The batteries had to be recharged frequently. Since most border units had no electricity, the batteries had to be taken to battalion for recharging. It required much work to keep the lines and stakes in operating order and to check the cans.

A border crosser who was familiar with the SV-2 could escape detection by keeping a sharp outlook for wires and crawling under them. The wires were about one meter from the ground.

2. Tantal and Rubin

a. Installation

These two sets were almost the same as the SV-2, but were not connected to the telephone-telegraph wires. An underground wire connected the wire strung on the stakes to the control panel in company headquarters. Also, the iron cans (placed on telephone poles in the SV-2) were much smaller. Source did not know how signals from the wires were carried to the control panels.

b. Operation

The control panel (k) (see sketch 3) for the Tantal had two round windows (l), as on the SV-2. The lamp in the right window indicated attempted crossings in the

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10 right sectors, and the lamp in the left window indicated attempted crossings in the 10 left sectors. The number of the sector was shown, and another lamp indicated TO US or FROM US. Source did not know how this was accomplished, or if two wires were used.

The Rubin control panel had two windows also. The window on the right indicated violations in the 10 right sectors with a red lamp, and window on the left indicated violations in the 10 left sectors with a green lamp. The box did not indicate by lamps or signs whether the border crosser was entering or leaving the USSR, or the number of the sector where the violation occurred. If the border crosser was entering the USSR, there were three short whistles, then an intermission, then as many whistles as the number of the sector involved. If the border crosser was leaving the USSR, there were three long whistles, then an intermission, then as many whistles as the number of the sector involved. Source did not know how this system was technically possible.

c. Disadvantages

The Rubin and Tantal could be escaped by the same methods as were used against the SV-2.

Source could give no other technical data on the SV-2, Tantal, or Rubin.